CLAIMS

1. Method for producing three-dimensional objects by forming a large number of successive parallel layers in a first dimension and each consisting of two heat-fusible modelling materials, the method using the two following main steps:

- a first step consisting of the timed supply of a first modelling material to at least a first jet (12) positioned on a first fixed working station, and of moving the jet with respect to the supporting surface along second and third directions perpendicular to the first direction and over a determined pathway, to deposit drops of material on the supporting surface; and
- a second step consisting of conducting the same operation with a second jet positioned on a second fixed work station and supplied with a second material over a determined pathway,

this cycle being renewed a sufficient number of times, with pathways determined in relation to the object, in order to construct the object.

characterized in that the number of fixed work stations is 2.N, the supporting surface consists of 2.N platforms (11) on each of which the process is implemented, each of the two 2.N platforms (11) is alternately moved to lie under at least one of the N first jets (12) to conduct the first step, then under at least one of the N second jets (12) to conduct the second step, in order to deposit simultaneously 2.N deposits of material on the 2.N platforms (11).

2. Method as in claim 1, characterized in that surface shaving of the last deposited layer is performed after every second operation under a fixed shaving station with at least one shaver (25, 25A, 25B) mounted rotatably about a fixed axis perpendicular to a first direction.

3. Machine for producing three-dimensional models by forming a large number of successive, parallel layers along a first direction and each formed of two modelling materials on a supporting surface by means of at least jets (12) each supplied with one of the two materials at fixed work stations, and mobile with respect to a main carriage (14) along a second direction perpendicular to the first direction, the main carriage (14) being mobile with respect to the fixed depositing station along a third direction perpendicular to the first direction, this machine implementing the steps of the method according to claim 1,

characterized in that the supporting surface consists of 2.N platforms (11) on each of which the process is implemented simultaneously, the 2.N platforms (11) being moved at the same time and alternately under a number N of first depositing stations each carrying a first jet (12), by means of a mobile secondary carriage (13) to implement the first step, and under a same number N of second fixed depositing stations each carrying a second jet (12) by means of a mobile secondary carriage, to implement the second step in order to produce 2.N objects simulatenously.

4. Machine as in claim 3, characterized in that it comprises a number N of fixed surface shaving stations, positioned every second fixed depositing station between two adjacent depositing stations.

5. Machine as in claim 3, characterized in that the supporting surface is mounted rotatably about a main axis (A) parallel to the first direction, the 2.N platforms (11) being spaced at an angle from each other by an angle pitch of π/N, the 2.N depositing stations also being positioned at an angle of π/N.

6. Machine as in claim 5, characterized in that the number N equals 1, the angle pitch is 180°, the fixed shaving stations being offset by 90° with respect to the two fixed work stations.

7. Machine as in claim 6, characterized in that the supporting surface is carried by a crossbar (20) mounted rotatably about the main axis (A) and carrying two opposite platforms (11).

8. Machine as in claim 7, characterized in that it comprises an angle encoder (21) located at the base of the crossbar (20).

9. Machine as in claim 8, characterized in that the crossbar (20) is driven by a motor (22) and a wheel/worm screw driving system (23).

10. Machine as in claim 3, characterized in that the main (14) and secondary (13) carriages are driven by linear motors.